

The first dentists sent to the Western Front during the First World War

F. S. S. Gray¹

In brief

Provides an overview of dentistry on the Western Front during the First World War.

Provides an overview of dental units during the First World War.

Provides biographical information regarding the first dentists, serving in a professional capacity at the Western Front.

At the outbreak of the First World War there was insufficient dental provision for serving military personnel. No army dental specialists were available overseas when the troops joined the British Expeditionary Force (BEF). However, the pain of toothache together with the ensuing limited mastication was debilitating and demoralising for the British soldiers. The result was that men were being withdrawn from the front for treatment at base hospitals. This was limited to extractions by medical officers, which frequently incurred unnecessary loss of dentition when restorative work would have been preferable. Other consequences of dental neglect were indigestion and malnutrition. Additionally, the painful condition of acute necrotising ulcerative gingivitis, then commonly referred to as 'trench mouth', was prevalent.

Introduction

The British Dental Association (BDA) and members of the dental profession had campaigned vigorously for the provision of dental facilities for the troops. Unfortunately, this had been without success. In October 1914 the Commander of the First Army, Sir Douglas Haig, suffered from toothache during the Battle of Aisne; owing to the fact that no dental specialists were available within the army, a dentist from Paris was sought.^{1,2}

*'The automobile of the dentist was struck by three shells and his instruments scattered. He had to proceed on foot, and only reached General Haig's headquarters after encountering many difficulties. Finally the tooth was extracted under a rain of bullets.'*³

Remaining for three days, he treated several cases. This event highlighted the necessity for army dental surgeons near the front.

In November 1914, 12 dental surgeons were sent overseas to provide treatment for the BEF. Dental surgeons were awarded temporary

commissions as Lieutenants on the Special List (for officers holding temporary, acting or honorary ranks) and were attached to the Royal Medical Army Corps (RAMC). Only registered dental surgeons were considered. (It was not until the Dentists Act in 1921 that it was compulsory for dentists to be both formally qualified and registered.) Those dentists with additional medical qualifications were commissioned into the RAMC directly.

The dentists

The first six dental surgeons to be sent to the Front in a professional capacity were:⁴

- Frederick William Broderick LDS RCS MRCS LRCP
- Claude Gray Colyer LDS RCS MRCS LRCP
- Horace Charles Colyer LDS RCS MRCP LRCP
- Stanley Alfred Riddett LDS RCS MRCS LRCP
- George Gilbert Timpson LDS RCS MRCS LRCP
- Charles Weller LDS RCS MRCS LRCP.

They were commissioned on 1 November 1914 and shortly afterwards each was attached to a casualty clearing station (CCS).⁵ Before departure, kits comprising three cases were

issued. One case contained the necessary instruments, another a portable chair and the third nitrous oxide.⁶

The CCSs, often in tents or huts, were situated behind the front line and near railway lines (Fig. 1). Eventually, they became well-equipped medical units. Initially, however, the facilities were very limited for the dental services required. One of the first dental surgeons to go, attached to CCS No. 4, was more fortunate in his accommodation and states in his account:

'The Division with its CCS proceeded to Lillers where it set up the hospital in a school with the Officers mess in a well-appointed house.'

'I was given a small cottage in which to set up my surgery and quickly had plenty of work to do. As soon as this was known the Field Ambulances started sending in numerous cases and it became necessary to limit these to 10 cases per day for each one.'

*'I was fortunate in having a Pathology Laboratory also attached to the CCS so as soon as numerous cases of severe Gingivitis appeared I was with their help able to establish that they were cases of Vincent's Angina. The first recorded in the war.'*⁷

Later in November 1914 another six dentists were commissioned as temporary Lieutenants and served on the Western Front:⁸

¹Volunteer, BDA Dental Museum
Correspondence to: Fiona Gray
Email: museum@bda.org

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Fig. 1 Dental treatment in the field



Fig. 2 Dental Laboratory in France

- Walter Lawton Cocker LDS RCS
- William Hood Dye LDS RCS MRCS LRCP
- Harold Frederick Metcalf LDS RCS
- Clifford Thomas Plimsoll LDS RCS
- Clarence Leslie Brunel White LDS RCS
- William Hector Wotton LDS RCS.

It is worth noting that by November there were 260,000 officers and men of the BEF in France.⁹ By the end of the year, 20 dentists were serving the troops at the front. The following were commissioned in December 1914:¹⁰

- Edwin Llewellyn Zenas Fickling LDS RCS
- Benjamin Durrans Johnson LDS RCS Lic. Med Lic.Surg
- Gordon Johnson LDS RCS
- Leonard Algernon Bertram King LDS RCS
- Charles William Randall LDS RCS

- Reginald Harry Rix LDS RCS
- Ernest Guy Robertson LDS RCS
- Bertram Barnet Samuel LDS RCS.

The dental units

Basic dental prosthetics for the troops of the BEF was still unaddressed. Dentures and teeth were often broken, aided by rations of hard biscuits and bully beef. Dentures were also frequently lost, either involuntarily or wilfully; the 'trench rats' sometimes being held responsible! This necessitated soldiers being withdrawn from the front and sent to the base hospitals or possibly home. The loss of fighting men caused consternation for the commanding officers. With time, dental officers visited divisional areas by ambulance car to undertake simple treatments,

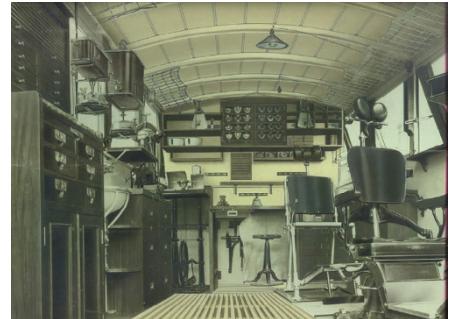


Fig. 3 Interior of a Mobile Dental Unit

excluding prosthetics. In early 1915 a centre for making and repairing dentures was set up in Arques, near St. Omer, France, serving the First and Second Armies (Fig 2).¹¹

In May 1916 the Civil Service Motor Ambulance Fund, through the British Red Cross Society (BRCS), presented a mobile dental unit which served the Third Army (Fig 3):¹²

- The body was designed by the engineers of the Royal Automobile Club on a Selden chassis with a 32 h. p. engine
- The front of the interior contained a workshop, providing equipment and materials for the making and repair of dentures and the making of splints. This included a 12v lathe and a paraffin vulcaniser
- The rear of the interior operated as a surgery with an ordinary hospital pattern pump chair, a portable, folding chair, a foot dental engine, dental cabinet, swing bracket and light, gas apparatus and materials and instruments for the extraction and filling of teeth
- Electricity was generated by a dynamo and stored in accumulators
- Primus stoves were used for sterilisation
- Water was stored in a tank on the front of the roof
- The personnel consisted of a dental surgeon, a dental mechanic and a driver.

In April 1917, Messrs de Trey and Co., Ltd. presented a further mobile dental ambulance (Fig 4).^{13,14} It comprised a 32 h. p. Albion 4-cylinder engine and chassis, with a speed of 12–14 mph and the fittings were based on the French Red Cross car. However, following suggestions by Lt A. Parker Cater, GBC, Armée Francaise, there were some improvements on the earlier model such as:

- More space by means of a platform extension at the rear and more light
- The interior had the latest Columbia chair, which was movable on 4ft rails in addition



Fig. 4 Mobile Dental Unit

to a portable, folding chair

- The lighting was either acetylene or electric as the ambulance could be connected to the town supply when possible
- All the equipment, except the lockers, was removable to enable use as an operating theatre or hospital ambulance for the troops.

These units enabled a more comprehensive dental service, including prosthetics, to be delivered near the front. Proving to be a success, eventually all five armies had a mobile dental unit. Provision of all forms of dental treatment avoided evacuation of troops for minor dental ill.

Medals and achievements

All army personnel were awarded medals for their service during the war. These dental surgeons would have been entitled to the 1914 or 1914–15 Star, the British War Medal and the Victory Medal (Fig. 5):

- The 1914 Star – a lacquered bronze star issued to most personnel who served in France or Belgium from 5 August 1914 to November 1914. Established in 1917
- The 1914–1915 Star – a lacquered bronze star issued to most personnel who served in a theatre of war before 31 December 1915 and were not entitled to receive the 1914 Star. Those serving after 1 January 1916 did not receive the Star.
- The British War Medal – the most commonly issued medal. A silver medal that all members of the fighting forces that served overseas were entitled to. Established in 1919
- The Victory Medal – a bronze medal issued to any member of the three armed forces that entered a theatre of war. It was established in 1919 with retroactive effect. It included a bronze oak-leaved emblem on the ribbon, for those mentioned in despatches.¹⁵



Fig. 5 'Pip, Squeak and Wilfred'

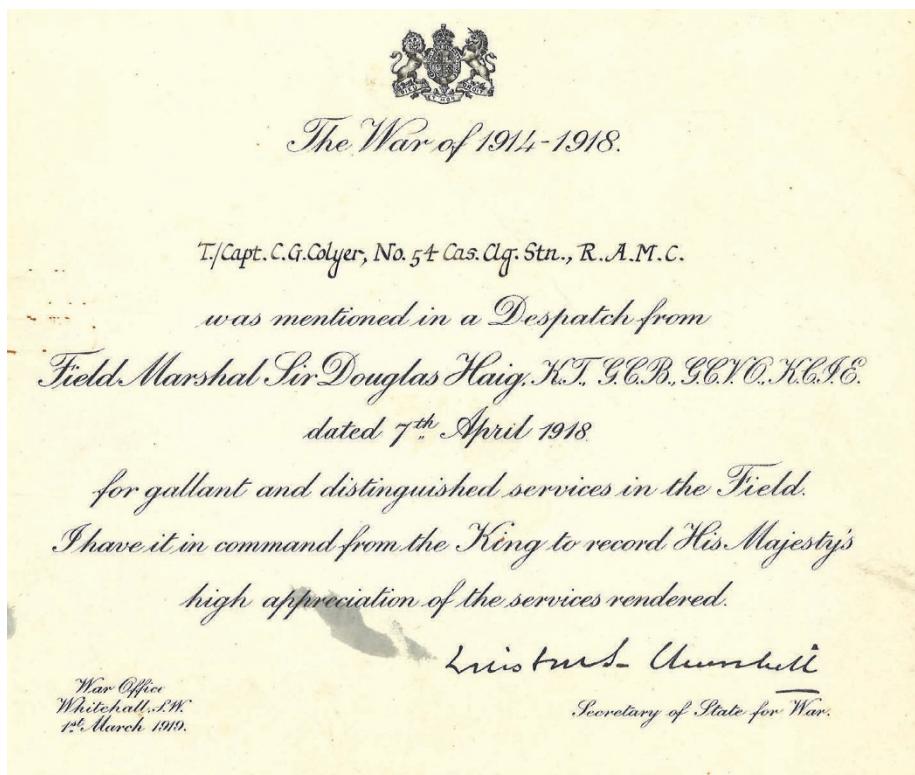


Fig. 6 Mentioned in Despatches

Among those mentioned in despatches were:

- C. G. Colyer (Fig. 6)
- W. H. Dye
- L. A. B. King
- B. B. Samuel
- G. G. Timpson.

Captain S. A. Riddett was awarded a Military Cross, his citation being:

'For conspicuous gallantry and devotion to duty. This officer was the only medical officer in a village that was being very heavily shelled by the enemy, and where our troops were suffering severe losses. He showed complete and self-sacrificing disregard of danger, dressing the wounded and arranging their removal, moving about the village, which he would not leave, until he had satisfied himself by personal investigation that

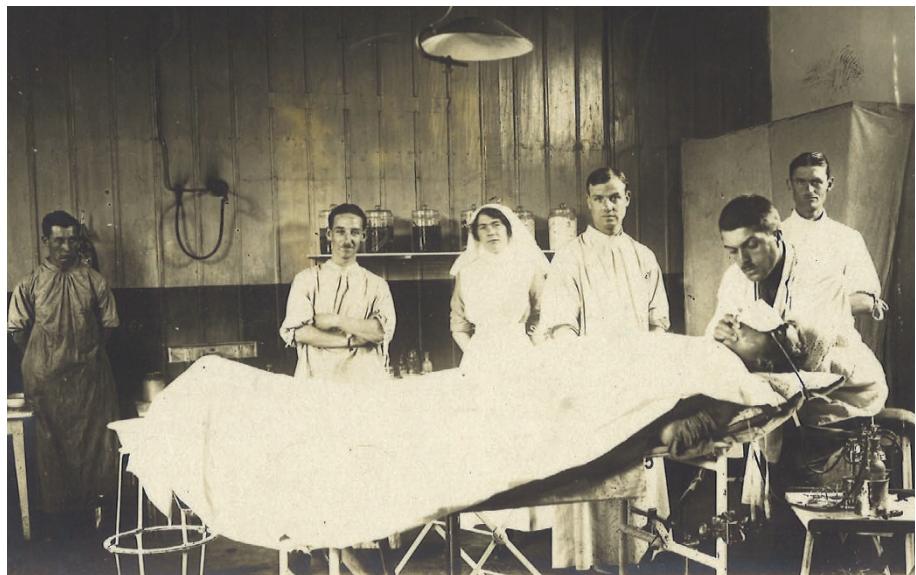


Fig. 7 Thought to be CCS 54

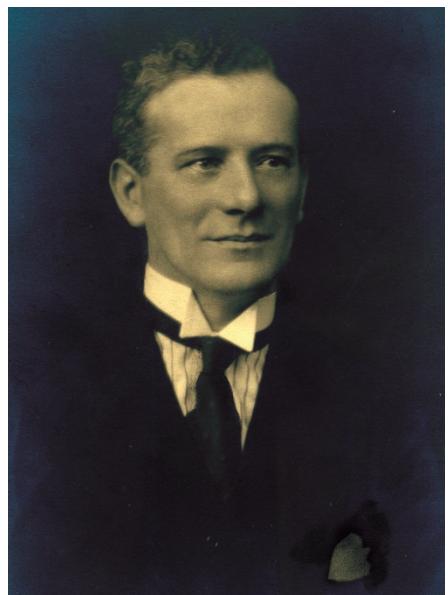


Fig. 9 B. B. Samuel



Fig. 8 Thought to be CCS 54 where C. G. Colyer served

all the wounded had been evacuated. His gallant behaviour and devotion to duty undoubtedly saved many lives.¹⁶

Riddett was one of the first six dental surgeons sent to the front and served with CCS No.2. On returning to civilian life he practised in Harley Street.

C. G. Colyer and L. A. B. King were awarded OBEs. Dentistry was a family tradition for the Colyers. Sons and nephews of dentists and cousins of Sir Frank Colyer, both Claude Gray and his brother Horace Charles Colyer, were two of the first dentists to serve at the front, disembarking in November 1914 (Figs 7 and 8). Captain Claude Colyer served as dental adviser to

the First Army and at the end of the war received an OBE for his services in France.^{17,18} Returning to general practice in Claygate, Surrey, following the end of hostilities, Colyer's particular interests lay in dental sepsis and radiological diagnosis.

Captain King was temporarily commissioned in the RAMC as a dental officer, stationed at Aldershot, where he gained experience treating jaw injuries. In December 1914 he was sent to France and during the course of his service was mentioned in despatches on three occasions. He worked with Charles Augustus Valadier on pioneering treatments at the Boulogne Jaw Injuries Hospital and was awarded an OBE for his services overseas.¹⁹

F. W. Broderick was invalided home in April 1915. He became the first Dental Inspecting Officer, with the rank of Major, and was responsible for organizing the dental services in Southern Command. He introduced the first central dental laboratory, which was situated in Birmingham Dental Hospital.²⁰ Following the cessation of hostilities, Broderick returned to practice in Bournemouth and pursued his interest in the causes of caries and periodontal disease. His theories were considered by many to be unorthodox; his postulation being that the diseases were opposite and distinct and caused by general, rather than local, factors.

W. H. Dye disembarked in France late November 1914. He served on board a hospital ship in the Mediterranean during 1916–1917 and continued in the army after the end of the war. He was commissioned into the Regular Army in 1920, later becoming a Major, and served in East Africa until April 1925. Later he served in the Kenya Police reserve.

E. L. Z. Fickling was commissioned in December 1914 and joined the RAMC in May 1915. He was the uncle of Benjamin William Fickling CBE (1909–2007), a distinguished oral surgeon whose design of Fickling Forceps are still in use today.

B. B. Samuel (Fig. 9) was appointed officer in charge of mobile dental units No.1 and No.4 in 1916 until 1919 (Fig. 10).²¹ He returned to his practice in the West End of London and his hospital appointments. His distinguished career included an interest in children's dentistry and the study of orthodontics leading to his appointment as President of the



Fig. 10 Card sent to B. B. Samuel from colleagues in the 5th Mobile Dental Unit

British Society for the Study of Orthodontics. In 1936 he was a member of the Ministry of Health Regional Dental Officer staff.

Casualties

All of these 20 dentists survived the war, with the exception of Ernest Guy Robertson and Charles Weller, both of whom are commemorated on the BDA First World War Memorial.

Captain Robertson died on 28 October 1918 from pneumonia while serving at Queen's Hospital, Froginal, Sidcup. During the war he spent two years at a CCS before returning to England to treat jaw injuries at Cambridge Hospital, Aldershot.²²

Captain Weller died on 16 August 1917. At the time of his death he was serving as a medical officer to a London regiment. While at the Regimental Aid Post news arrived of officers buried in a shelled building. He was killed on his way to render assistance.²³ He had served at a CCS in Bethane and then Choate, which suggests it was probably CCS No.1. Later he was attached to the 2/3rd Field Ambulance.

C. W. Randall is commemorated on the BDA Second World War Memorial. He was killed on November 14, 1941 during the bombing of Coventry, while serving with the Air Raid Precautions (ARP) as Deputy Divisional Warden.^{24,25} He had been the first dental surgeon to treat troops in peacetime. During April 1904 to March 1908, he served in Home Command, but had no rank nor army

status. This arrangement was superseded in 1908; local civilian dentists, on a part-time contract, provided conservative dentistry for army personnel.²⁶ Randall was commissioned in December 1914 and, after the cessation of hostilities, was transferred to India as a dental officer before returning to practice in Coventry.

Army dental services

The importance of dentistry as a special branch of the Army Medical organisation was eventually recognised during the First World War. Following the Military Service Acts of 1916, conscription necessitated the increase of military dentists for both recruits and soldiers at the front. By December 1916 there were 463 military dentists at home and abroad, and 850 by the end of the war.²⁷ Lt Col. J. P. Helliwell was appointed as Inspecting Officer of the Director General of the Army Medical Service in March 1918 to coordinate the dental treatment of recruits and troops. His suggestions were incorporated in an Army Council Instruction in October 1918.²⁸

The events of the war demonstrated that the modern army could not operate effectively without an appropriate dental establishment that was organised and equipped for its special needs. The BDA campaigned tirelessly for an Army Dental Service along the lines of the RAMC. Eventually, following a Royal Warrant in 1921, the Royal Army Dental Corps (RADC) was established in 1923.

Further reading

- Crew F A E (ed). *The Army Medical Services. Administration Vol II.* London: Her Majesty's Stationery Office, 1955.
- Macpherson W G, Mitchell T J. *History of the Great War. Medical Services General History Vol II.* London: His Majesty's Stationery Office, 1924.
- Ward V H. *A History of the Army Dental Service.* Aldershot: RADC Historical Museum, 1997.
- Ward V H. *Dentists at War.* London: Minerva Press, 1996.
- Woods S H. An Outline of Dentistry in the British Army, 1626-1938: (Section of the History of Medicine). *Proc R Soc Med* 1938; 32: 99-112.
- *The Long Long Trail.* Available online at <http://www.longlongtrail.co.uk/>
- 1. Ward V H. *A History of the Army Dental Service.* p 21. Aldershot: RADC Historical Museum, 1997.
- 2. Macpherson W G, Mitchell T J. *History of the Great War. Medical Services General History Vol II.* p 308 London: His Majesty's Stationery Office, 1924.
- 3. *The Dental Surgeon* 1917; **9:** 488.
- 4. *Br Dent J* 1914; **35:** 1203.
- 5. The London Gazette. p 9018. 6 November 1914; Issue 28965.
- 6. Author unknown. Dentistry in the forward areas. BEF France 1914-1918. p 2. (in the BDA Museum collection).
- 7. Author unknown. Dentistry in the forward areas. BEF France 1914-1918. p 3. (in the BDA Museum collection).
- 8. The London Gazette. p 11040. 22 December 1914; Supplement 29018. p 11040.
- 9. Winter D. *Haig's Command. A Reassessment.* p 7. London: Viking, Penguin Books Ltd, 1991.
- 10. Ward V H. *A History of the Army Dental Service.* p 17. Aldershot: RADC Historical Museum, 1997.
- 11. Author unknown. Dentistry in the forward areas. BEF France 1914-1918. p 4. (in the BDA Museum collection).
- 12. Ward V H. *A History of the Army Dental Service.* p 18. Aldershot: RADC Historical Museum, 1997.
- 13. *Br Dent J* 1917; **38:** 349.
- 14. *The Dental Surgeon* 1917; **9:** 158.
- 15. The Long, Long Trail. Website. Available at www.longlongtrail.co.uk (accessed May 2017).
- 16. The London Gazette. p 11006. 13 September 1918; Supplement 30901.
- 17. The London Gazette. p 6797. 30 May 1919; Supplement 3 June 1919.
- 18. Obituary. *Br Dent J* 1975; **139:** 256.
- 19. Obituary. *Br Dent J* 1939; **67:** 154.
- 20. Obituary. *Br Dent J* 1946; **81:** 166-167.
- 21. Obituary. *Br Dent J* 1957; **102:** 375.
- 22. Obituary. *Br Dent J* 1918; **39:** 684.
- 23. Obituary. *Br Dent J* 1917; **38:** 756, 887.
- 24. Obituary. *Br Dent J* 1941; **70:** 70.
- 25. www.ancestry.com. UK, WWII Civilian Deaths, 1939-1945 [database on-line]. Provo, UT, USA, 2013.
- 26. Woods, S H. An Outline of Dentistry in the British Army, 1626-1938: (Section of the History of Medicine). *Proc R Soc Med* 1938; **32:** 109.
- 27. Woods, S H. An Outline of Dentistry in the British Army, 1626-1938: (Section of the History of Medicine). *Proc R Soc Med* 1938; **32:** 110.
- 28. Ward V H. *A History of the Army Dental Service.* p 24. Aldershot: RADC Historical Museum, 1997.